1. In a system having a data reservoir storing channel data for one or more channels associated with one or more devices, a method for arbitrating data requests of the one or more channels to a main memory, the method comprising the acts of:

defining a circular list having a plurality of entries, wherein the entries correspond to the one or more channels;

evaluating a channel associated with an entry in the circular list to determine whether the channel requires service; and

servicing the channel by requesting channel data from the main memory to replenish the data reservoir if the channel requires service.

2. A method as defined in claim 1, wherein at least one of the plurality of entries is a call to a sub list having sub entries that correspond to the one or more channels, wherein one of the sub entries is serviced before returning to the circular list.

3. A method as defined in claim 2, further comprising the act of evaluating each sub entry as calls to the sub list are made from the circular list.

4. A method as defined in claim 1, wherein the act of evaluating a channel associated with each entry further comprises the acts of:

determining an entry time, the entry time representing how long until the channel will be evaluated again;

determining a latency, the latency representing how long the main memory will take to respond to a data request;

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determining a buffer time, the buffer time representing how long data stored in the data reservoir maintained by a direct memory access (DMA) engine will last; and

determining that the channel requires service if the buffer time is less than the entry time and the latency.

5. A method as defined in claim 1, further comprising the act of servicing each channel represented by the entries and the sub entries in a programmable response time.

6. A method as defined in claim 1, wherein the act of servicing further comprises the act of transferring data from the main memory to the data reservoir.

7. A computer-readable medium having computer-executable instructions for performing the acts recited in claim 1.

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8. In a system having a main memory storing data for one or more devices, a method for servicing memory requirements of the one or more devices, the method comprising the acts of:

generating a data reservoir by a direct access memory (DMA) engine for the one or more devices, the data reservoir maintaining a buffer for each of the one or more devices, wherein the DMA engine communicates with the main memory and the one or more devices communicate with the DMA engine;

determining, by the DMA engine, whether a data request should be made to the main memory for each of the one or more devices;

for each of the one or more devices requiring service for the data request, requesting from the main memory, by the DMA engine, additional data to replenish each buffer in the data reservoir for each of the one or more devices; and

providing each of the one or more devices with access to each respective buffer in the data reservoir.

9. A method as defined in claim 8, wherein the act of generating a data reservoir further comprises the act of maintaining a channel buffer for each channel associated with each of the one or more devices.

10. A method as defined in claim 8, wherein the act of determining further comprises the acts of:

evaluating an entry in a list, the entry corresponding to a channel of a device, to determine if the channel is critical based on the factors of:

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a buffer time representing how long until the channel buffer in the data reservoir is empty;

an entry time representing how long until the channel corresponding to the entry will be evaluated again; and

a latency representing a main memory response time;

making the data request for the channel if the channel is critical; and

refraining from making the data request for the channel if the channel is not critical.

11. A method as defined in claim 10, further comprising the act of evaluating a next entry in the list, wherein the next entry corresponds to another channel.

12. A method as defined in claim 10, wherein the act of making the data request further comprises the act of placing the data request in a critical queue.

13. A method as defined in claim 10, wherein the act of refraining from making the data request further comprises the act of placing the data request in a non-critical queue.

14. A method as defined in claim 8, wherein the act of providing each of the one or more devices with access further comprises the acts of:

maintaining an arbitration count;

determining which of the one or more devices are eligible to make a request for data to the DMA engine using the arbitration count; and

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increasing the arbitration count after all eligible devices have had the opportunity to make the request for data to the DMA engine.

15. A method as defined in claim 8, further comprising the act of servicing each of the one or more devices in a programmable time period.

16. A method as defined in claim 8, further comprising the act of replenishing each buffer in the data reservoir within a programmable time period.

17. A computer-readable medium having computer-executable instructions for performing the acts recited in claim 8.

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18. In a computer system having a main memory storing data for one or more devices operating within the computer system, a method for making a data request to the main memory on behalf of one or more devices, the method comprising the acts of:

generating a main list, wherein the main list has at least one entry and each at least one entry comprises a particular channel of the one or more devices;

for each at least one entry, determining if an associated channel is critical by evaluating:

a buffer time representing how long a channel buffer associated with the associated channel will last;

an entry time representing how long until the associated channel will be evaluated again; and

a latency representing a main memory response time, wherein the associated channel is critical if the buffer time is less than the entry time and the latency;

placing the data request in a critical queue if the associated channel is critical; and

placing the data request in a non-critical queue if the associated channel is not critical.

19. A method as defined in claim 18, wherein the associated channel corresponds to more than one entry on the main list.

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20. A method as defined in claim 18, wherein one of the at least one entries comprises a call to a sub list, the sub list returning to the main list after a single entry on the sub list has been serviced.

21. A method as defined in claim 18, wherein the act of determining if an associated channel is critical further comprises the act of repeatedly evaluating each entry in the main list.

22. A method as defined in claim 18, further comprising the act of transferring data from the main memory to a data reservoir maintained by a direct memory access (DMA) engine.

23. A method as defined in claim 18, further comprising the act of transferring data from a data reservoir maintained by a DMA engine to the main memory.

24. A method as defined in claim 18, further comprising the act of servicing the data request in the critical queue.

25. A method as defined in claim 18, further comprising the act of evaluating each at least one entry in a programmable response time.

26. A computer-readable medium having computer-executable instructions for performing the acts recited in claim 18.

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27. In a system including a main memory storing data for one or more devices, a method for arbitrating data requests from the one or more devices, the method comprising the acts of:

creating an arbitration mechanism at a direct memory access (DMA) engine;

selecting eligible devices from the one or more devices using the arbitration mechanism; and

allowing the eligible devices to make data requests to the DMA engine for one channel of each of the eligible devices.

28. A method as defined in claim 27, wherein the arbitration mechanism is a counter.

29. A method as defined in claim 28, further comprising the act of incrementing the counter after all of the eligible devices have had an opportunity to make data requests to the DMA engine.

30. A method as defined in claim 27, wherein the act of selecting eligible devices further comprises the act of performing a logic operation using device identifiers and the arbitration mechanism for each of the one or more devices, wherein each of the one or more devices is an eligible device when the logic operation is true.

31. A method as defined in claim 27, further comprising the act of allowing all of the devices to make data requests within a programmable time period.

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32. A method as defined in claim 31, wherein the programmable time period is defined by the arbitration mechanism.

33. A method as defined in claim 27, further comprising the act of accessing a data reservoir of the DMA engine for data according to the data requests.

34. A method as defined in claim 27, further comprising the act of sending data to a data reservoir of the DMA engine in accordance with the data requests.

35. A method as defined in claim 27, further comprising the act of maintaining the data reservoir by accessing the main memory according as determined by a memory interface.

36. A computer-readable medium having computer-executable instructions for performing the acts recited in claim 27.

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37. In a computer system including one or more devices and a main memory storing data for the one or more devices, a system for servicing data requests of the one or more devices, the system comprising:

a direct memory access (DMA) engine, the DMA engine having a data reservoir for consolidating memory buffers of the one or more devices;

a devices interface operably connected with the DMA module, wherein the devices interface arbitrates device data requests generated by the one or more devices for data from the data reservoir; and

a memory interface operably connected with the DMA module, wherein the memory interface arbitrates reservoir data requests generated by the DMA module for data from the main memory to replenish the data reservoir.

38. A system as defined in claim 37, wherein the data reservoir further comprises a plurality of device buffers, the plurality of device buffers storing data for the one or more devices, wherein each of the plurality of device buffers is associated with one of the one or more devices.

39. A system as defined in claim 38, wherein each of the plurality of device buffers further comprises at least one channel buffer for each channel associated with each of the one or more devices.

40. A system as defined in claim 37, wherein the devices interface further comprises an arbitration mechanism used to select eligible devices from the one or more devices, wherein the eligible devices make the device data requests.

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41. A system as defined in claim 37, wherein the DMA engine guarantees that the device data requests of the one or more devices is serviced within a programmable response time.

42. A system as defined in claim 37, wherein the memory interface further comprises a circular list having a plurality of entries, each entry representing one of the channels of the one or more devices, wherein the channels are evaluated to determine if the channels are critical.

43. A system as defined in claim 42, wherein the circular list is linked to one or more sub lists, the one or more sub lists having additional entries.

44. A system as defined in claim 42, wherein the DMA engine makes the reservoir data request for the channels that are critical.

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